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(54) Food packing method

(57) A method and apparatus for packing semi-liquid substances, such as jams, purees, or cream, 18, comprising a triangular container 10 made from flexible sheet material and having a permanently sealable filter opening along one side, and a spout forming portion at the opposite corner, the corner 23 being cut off to form a spout for discharge of the contents by application of pressure to the container.

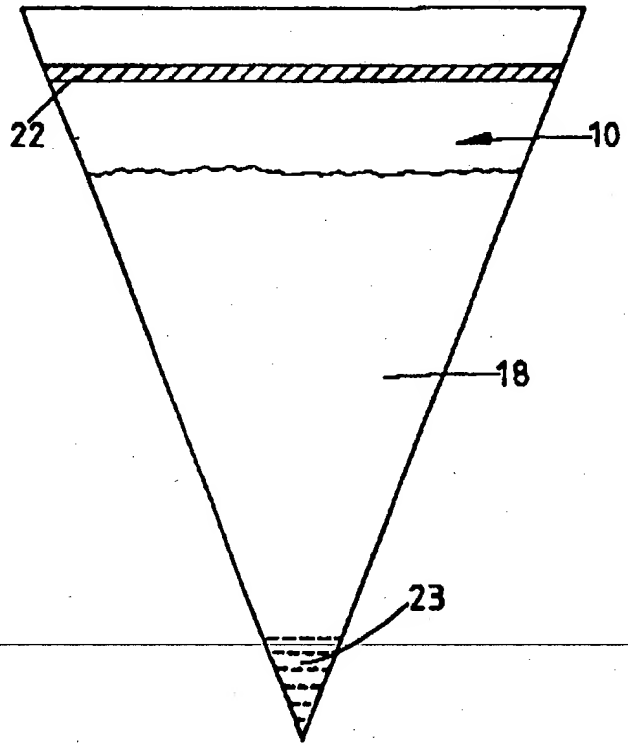

FIG.4.

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The drawing(s) originally filed was/were informal and the print here reproduced is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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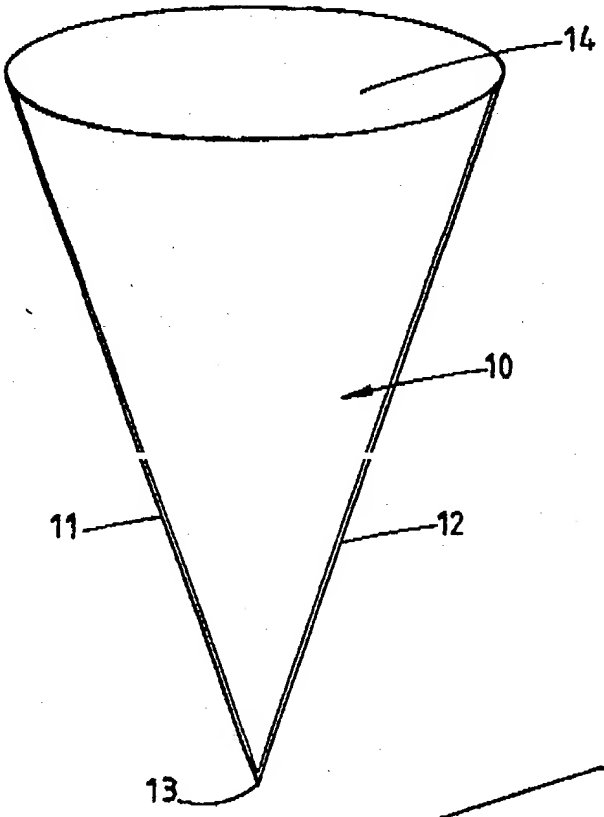


FIG.1.

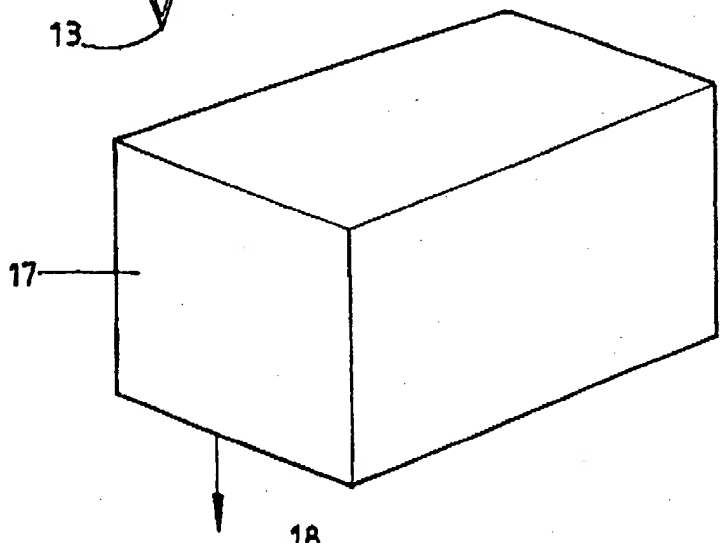
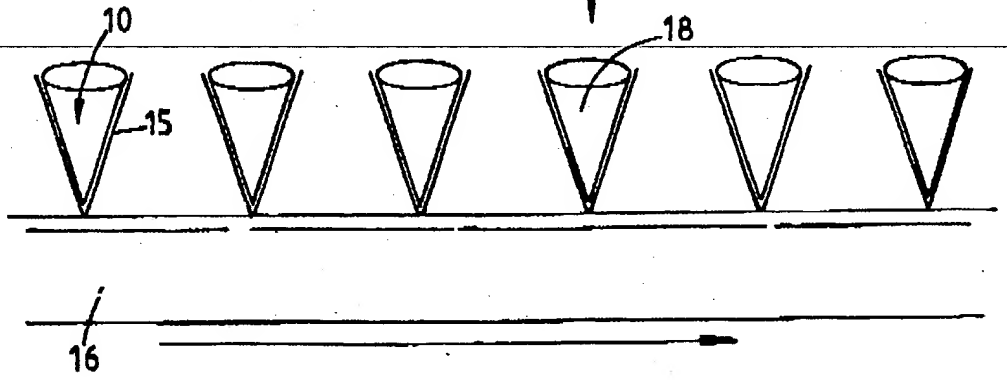


FIG.2.



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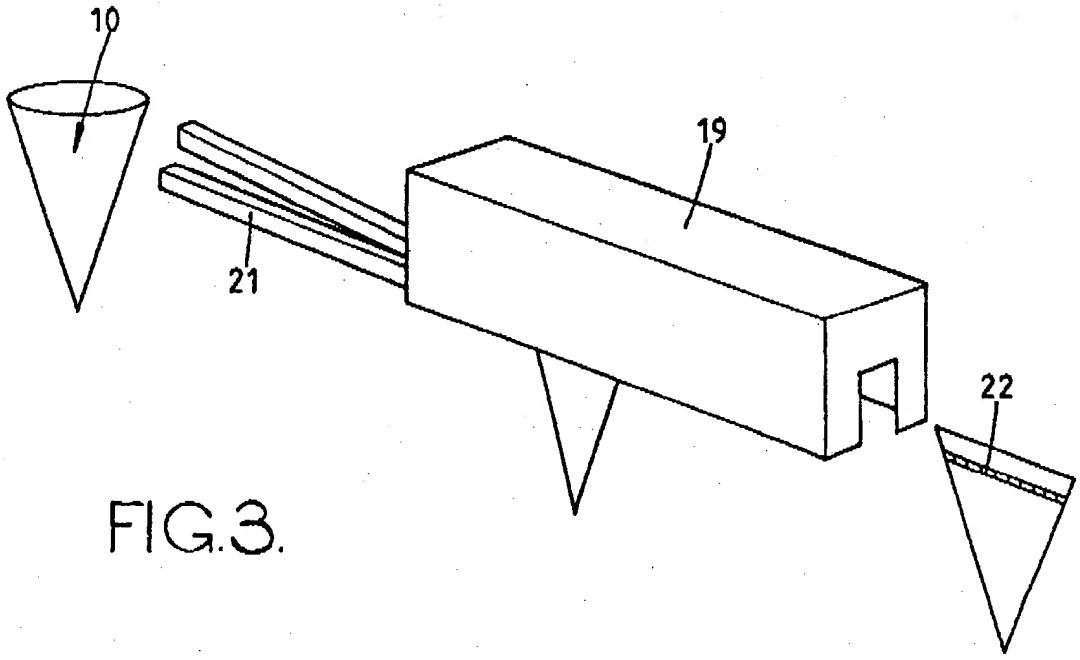

FIG.3.

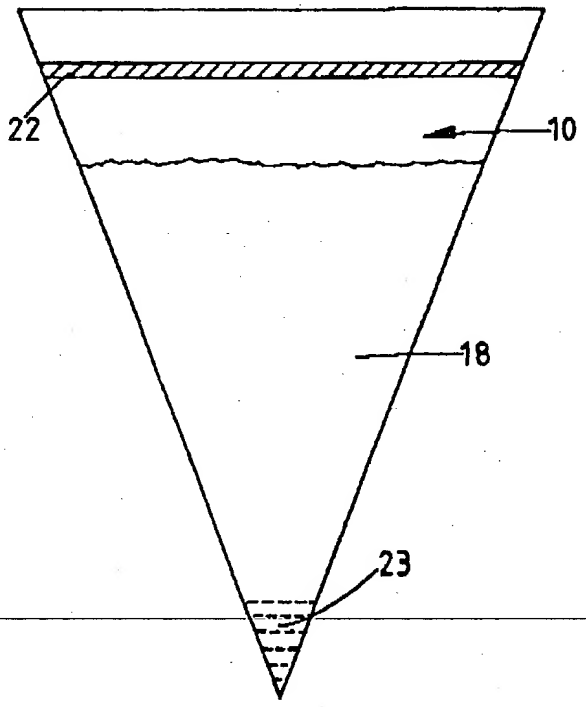

FIG.4.

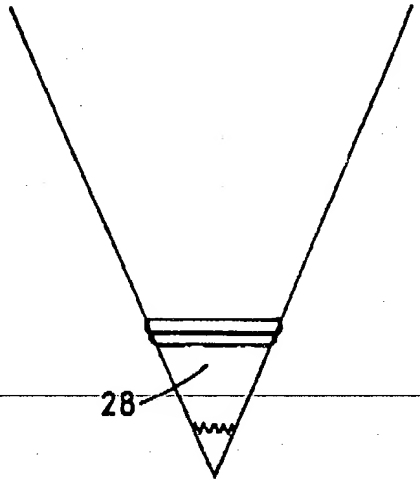

FIG.5.

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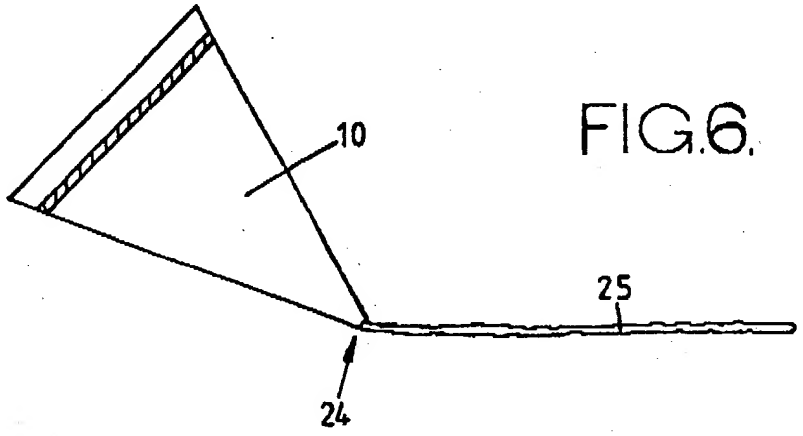

FIG.6.

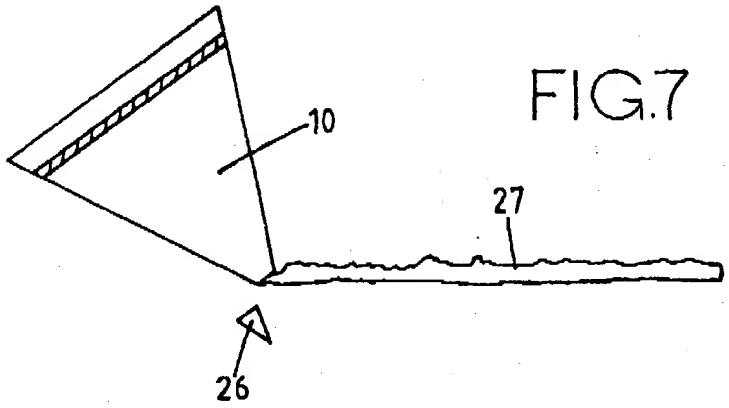

FIG.7

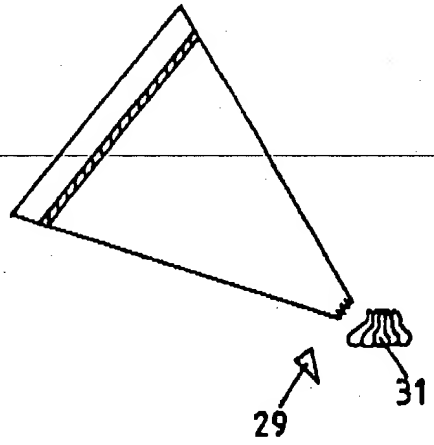

FIG.8.

SPECIFICATION

Food packaging method and apparatus

This invention relates to a method and apparatus for packaging foods of semi-liquid consistiency, such as fruit purees and jams, cream, sauces and other foods.

Such foods are often used in the production of pies, tarts or other finished products in which the semi-liquid food substance is placed in prepared edible cases, this often being carried out just prior to sale or consumption. Furthermore such semi-liquid food substance is sometimes placed in a manner which affords a decorative appearance to the finished product.

On a commercial scale, such food products as fruit purees and jam are sold in large containers, from which the user has to ladle it out into the prepared cases, or for other purposes, and this gives rise to mess, waste and inconsistant apparance of the finished products, where a decorative effect is required.

Some food products of this semi-liquid consistancy are piped onto the finished product using conventional piping bags and nozzles. These are messy to fill and to clean after use and tend to be wasteful of the product being dispensed.

It is the primary object of the invention to provide a packaging method for semi-liquid substances which is clean and non wasteful and very convenient to use.

In accordance with this aspect of the present invention there is provided a method of packaging semi-liquid substances comprising making a container from a flexible sheet material, the container having a filling opening and, a spout forming portion, and then filling the container through said filling opening and finally permanently sealing said filling opening.

A further object is to provide apparatus for packaging semi-liquid substances, in a convenient form.

In accordance with a further aspect of the invention there is provided apparatus for packaging semi-liquid substances comprising a container made from a flexible sheet material, the container having a permanently sealable filling opening and, at a position spaced from the filling opening, a spout forming portion.

In use, the filled container, with its filling opening permanently sealed, is made ready for use by cutting off the end of the spout forming portion, thus creating an outlet spout from which the contents can be discharged by applying pressure to the container.

Preferably the container is of triangular form, the point at one corner being the spout forming portion and the filling opening being at the opposite side.

The container is conveniently made from a material such as polythene sheeting. The filling opening can be sealed, after filling, by a heat sealing process.

The invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a perspective view showing a container constructed in accordance with the invention;

Figure 2 shows filling apparatus for successive containers;

Figure 3 shows a heat sealing apparatus for the containers;

Figure 4 shows a sealed container ready for transportation or storage;

Figure 5 shows a nozzle inserted in the lower end of the container;

Figure 6 shows the container in use for dispensing a thin stream of product contained;

Figure 7 shows the container dispensing a thicker stream; and

Figure 8 shows the dispensing of decorative deposits.

The container shown in Fig. 1 is intended for the transportation or storage of substances including fruit puree, jam, cream or other semi-liquid food substance. The arrangement has particular advantage where the food substance is sticky or otherwise difficult to handle.

The container 10 is formed in this example from two flat sheets of a flexible plastics material such as polythene or laminated nylon sheeting. Each sheet is of isosceles triangle form and the two sheets are welded together along seams 11, 12. These extend along the two longer sides and completely seal the edges together including the zone at the pointed junction 13. The third shorter side is shown open at 14 to provide a filling opening for the container. As shown, the two sheets may be separated so that the container takes up a generally conical configuration.

Fig. 2 shows apparatus for filling the containers in turn. The containers 10 are placed in rigid conical shaped cups 15 mounted on a conveyor indicated at 16. The conveyor with the cups 15 is preferably arranged on a continuous basis so that the cups 15 are re-used.

17 indicates apparatus for carrying a food substance to be dispensed into the individual containers and incorporates a measuring or weighing device whereby correct quantities are filled into the containers 10 in turn as they pass beneath the apparatus 17. Fig. 2 shows how the empty cups travel to a point beneath the discharge outlet of the apparatus 17 and the filling of the containers is indicated at 18.

Fig. 3 shows the means for sealing the containers after filling. The containers are removed in turn from the conveyor cups 15 and are carried to a heat sealing device indicated at 19. This includes entry guides 21 by means of which the container openings are closed ready for sealing and then, within the machine, heat sealing takes place along a line indicated at 22 at the right hand side of Fig. 3 and in Fig. 4. Fig. 4 shows how the welded

sealing line 22 is spaced from the top of the container and also from the filling 18. It is important that filling is not spilled on the area to be sealed since this might prevent a satisfactory airtight seal from being obtained.

The containers can be handled without risk of spilling of the contents and because of their flexibility they are very convenient for compact storage.

When the contents of the container is to be used the lower or sharper pointed end which is opposite to the filling opening is used as a spout for dispensing the contents. Fig. 4 shows indications at 23 at which the spout forming pointed end can be cut off. The higher up the container the cut is made, the larger the outlet spout formed.

Fig. 6 shows a small outlet formed by taking off a small triangular end portion 24. By applying pressure to the container the contents is discharged in a stream indicated at 25 and a smooth thin line can be discharged.

Fig. 7 shows the effect of a much larger cut by the removal of a larger piece 26. A thicker layer which may be chunky 27 can be discharged. The nature of the food substance which is packaged by this method and the decorative or other effect which is to be produced will determine the point at which the spout forming portion at the pointed end is cut off. Where it is simply desired to fill a case with a semi-liquid puree a large cut is made. It is possible also by this means to discharge a substance which includes diced or other chopped fruit or other food substance.

Decorative effects can be produced by applying a thin stream.

Fig. 5 shows a nozzle 28 which is inserted into the container prior to filling. An inexpensive plastics nozzle may be suitable and it is pushed right down into the base of the spout forming portion as shown. When the end of the container is cut off, as shown at Fig. 8, the end of the nozzle 28 is exposed. The size of the piece 29 cut off is to be such that the serrated or other decoration forming portion of the nozzle is fully exposed. By this means, it is possible to pipe decorative deposits 31 of the food substance as required.

It will be understood that the apparatus can be used for substances other than foods where similar conditions to those described apply.

CLAIMS

1. A method of packaging semi-liquid substances comprising making a container from a flexible sheet material, the container having a filling opening and a spout forming portion, and then filling the container through said filling opening and finally permanently sealing said filling opening.

2. A method as claimed in claim 1 wherein the spout forming portion is to be cut to form the spout, the contents being discharged by application of pressure to the container.

3. A method as claimed in Claim 1 or Claim 2 in which the filling opening is sealed by a heat sealing process.

4. A method as claimed in any one of the preceding claims wherein a nozzle is inserted in the container for use when the spout forming portion has been cut, to provide the outlet for the contents of the containers.

5. Apparatus for packaging semi-liquid substances comprising a container made from a flexible sheet material, the container having a permanently sealable filling opening and, at a position spaced from the filling opening, a spout forming portion.

6. Apparatus as claimed in Claim 5 in which the container is of triangular form, the point at one corner being the spout forming portion, and the filling opening being at the side opposite to said one corner.

7. Apparatus as claimed in either of Claims 5 and 6 in which the container is made from a flexible plastics sheet material.

8. Apparatus as claimed in any one of Claims 5, 6, and 7, in which a nozzle is disposed within the container adjacent to the spout forming portion, the nozzle being, in use, exposed by cutting of the spot forming portion to provide an outlet for the contents of the container.

9. A method of packaging semi-liquid substances substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

10. Apparatus for packaging semi-liquid substances substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

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